

Listing of Claims

1. (Currently Amended) A purified protein having desaturase activity, and comprising an amino acid sequence selected from the group consisting of:
 - (a) an amino acid sequence as shown in SEQ ID NO: 4;
 - (b) an amino acid sequence that differs from that specified in (a) by one or more conservative amino acid substitutions; and
 - (c) an amino acid sequences having at least ~~60%~~ 95% sequence identity to the sequences specified in (a) or (b).
2. (Original) An isolated nucleic acid molecule encoding a protein according to claim 1.
3. (Currently Amended) The isolated nucleic acid molecule of claim 2, comprising a sequence as shown in SEQ ID NO: ~~2~~ 3.
4. (Original) A recombinant nucleic acid molecule, comprising a control sequence operably linked to the nucleic acid sequence of claim 2.
5. (Original) A cell transformed with the recombinant nucleic acid molecule of claim 4.
6. (Currently Amended) A cell transformed with the recombinant nucleic acid molecule of claim 4 and a nucleic acid molecule that encodes a protein having desaturase activity, selected from the group consisting of:
 - (a) a nucleic acid molecule as shown in SEQ ID NO: 1; and
 - (b) a nucleic acid molecule that has ~~60%~~ at least 95% sequence identity to the nucleic acid molecule shown in (a).
7. (Original) The cell of claim 5, wherein the cell is a plant cell.
8. (Currently Amended) An isolated nucleic acid molecule that:

(a) hybridizes under ~~low-stringency~~ high-stringency conditions with a nucleic acid probe, the probe comprising a sequence as shown in SEQ ID NO: 3, ~~and fragments thereof~~; and

(b) encodes a protein having desaturase activity.

9. (Original) A desaturase encoded by the nucleic acid molecule of claim 8.

10. (Original) A recombinant nucleic acid molecule, comprising a promoter sequence operably linked to the nucleic acid molecule of claim 8.

11. (Original) A cell transformed with the recombinant nucleic acid molecule of claim 10.

12. and 13. (Canceled)

14. (Currently Amended) An isolated nucleic acid molecule that:
(a) has at least ~~60%~~ 95% sequence identity with a nucleic acid sequence as shown in SEQ ID NO: 3; and
(b) encodes a protein having desaturase activity.

15. through 27. (Canceled)

28. (New) The isolated nucleic acid molecule of claim 8, wherein the nucleic acid molecule hybridizes under very high-stringency conditions with the nucleic acid probe.

29. (New) A desaturase encoded by the nucleic acid molecule of claim 28.

30. (New) A recombinant nucleic acid molecule, comprising a promoter sequence operably linked to the nucleic acid molecule of claim 28.

31. (New) A cell transformed with the recombinant nucleic acid molecule of claim 30.